

ABSTRACT

An impulse-type "wave motor" employs a seabed-mounted or supported structure mounting a wave energy absorbing panel on a hinged lever arm for reciprocation motion to obtain optimal absorption of wave energy from wave motion in the sea. For deepwater wavelengths of L , the panel is optimally positioned in a region within $L/2$ depth from the sea surface. The panel motion is coupled by a connecting rod to a fluid pump which generates a high-pressure fluid output that may be used to drive a reverse osmosis desalination unit or to produce other useful work. Seawater or brackish water may be desalinated through reverse osmosis membranes to produce water quality for consumption, agricultural, or other uses. The submerged operating environment of the device in a region of one-half the design wavelength provides the maximum available energy flux and forced oscillations. The pump may be of the positive-displacement piston type, plunger type, or multi-staging driver type, or a variable volume pump.